

REMARKS/ARGUMENTS

Claims 7-13 and 25 are rejected under 35 U.S.C. 102 (e) as being anticipated by Xue et al (U.S. 6,174,605). Applicants submit that in light of the current amendment to independent claim 7, whereby a joint thickness to particle size relationship is recited, Xue is not applicable.

Briefly reiterating the Applicant's Remarks contained in their January 5, 2004 Response to the September 3, 2003 non-Final Official Action, Xue teaches away from superplastic deformation processes such as that recited in claim 7.

However, the instant amendment of claim 7 further teaches away from Xue by reciting verbatim the limitations in original claim 13; that is to say, claim 7 is now limited to a joint thickness that is at least five-times the size of the largest particle contained in the joint compound. As such, claim 13 has been amended to recite a joint thickness that is between 5 and 500 times the size of the largest particle in the compound. Support for now amended claim 13 is found on page 8, lines 12-14 of the specification.

Nowhere does Xue anticipate or disclose the aforementioned "at least five times" limitation. This is because Xue does not deal with superplasticity.

Furthermore, and contrary to the statement found in paragraph 2 of the latest Official Action, Xue does not in Column 2, lines 7-9 teach applying joint compound to a thickness at least five times the dimension of the largest particle. Rather, in that section, Xue merely states that joint thicknesses are to be between 25 microns and 2500 microns.

This is because Xue is not teaching a *method* for producing objects by plastic deformation. Xue is teaching a joint having specific physical attributes.

Indeed, none of the joint thicknesses in any of Xue's examples reflect the particle size/joint thickness relationship of the instant *method*. For instance, in Example 1 of Xue, the largest particle sizes (44 microns) are used to produce 150 micron joint thicknesses. This 150 micron joint thickness is *only 3.4 times* the particle dimension,

not the at least 5 times limitation of the instant process. In Example 3 of Xue, 44 micron particles are used to produce 130 micron joint thicknesses. This 130 micron joint thickness is *less than three times* the particle dimension.

Not only does Xue not anticipate or teach a *method* for producing objects using the at least five times particle size/joint thickness relationship recited in claim 7, but Xue's joints exhibit joint thicknesses much less than five times the particle dimension. As such, the now amended claim 13, which recites a 500-fold relationship, is even more patentably distinct from Xue.

Xue requires relatively low particle dimension/joint thickness relationships because Xue relies on "reactive-bonding" with objects it is joining, not superplastic deformation and particle sliding. (See all of Xue's Examples whereby a "reactive-bonding compound slurry" is required.) To wit:

"After application of the reactive-bonding layer, the parts are heated to a temperature sufficient to complete the bonding reaction, which occurs mostly within the joint interlayer, but also, to a small degree, between the layer and the carbon-carbon composite parts." (Column 3, lines 28-32.) (Emphasis mine.)

If a prior art reference is cited that requires some modification in order to meet the claimed invention and such modification destroys the purpose of the invention disclosed in the reference, one of ordinary skill in the art would not find reason to make the proposed modification. In re Gordon 733 F. 2d 900 (Fed. Cir 1984).

Xue relies on reactivity, not diffusion, to create its constructs as further explained in the previously-submitted 1.132 Affidavit by co-inventor Jules Routbort.

Furthermore, Xue does not anticipate or suggest the at least five times limitation as originally recited in original claim 13. Furthermore, Xue does not anticipate or suggest the between 5 times and 500 times particle dimension/joint layer thickness relationship of now-amended claim 13.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Xue. Applicants disagree. Xue does not anticipate or suggest the limitation of claim 16 whereby 65 percent or more by volume of the joint compound (or objects to be joined)

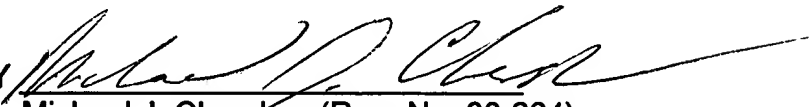
exhibits superplastic flow. Nowhere does Xue discuss superplastic flow or deformation. Rather, Xue utilizes *reactivity*, to bond joint constituents with themselves and to a lesser extent with the construct's components (See the quote above taken from the Xue patent.) The Applicants submit that reactivity of Xue's particles to cause bonding to each other is contra to sliding of particles around each other, which superplastic flow represents.

In light of the foregoing, and for the reasons stated in In Re Gordon, discussed supra, Applicants submit that it is impermissible hindsight to posit that a teaching of reactive bonding volumes anticipates or suggests superplastic flow volumes.

In light of the instant amendment, and the foregoing remarks, Applicants request that the §102 and §103 rejections based on Xue be withdrawn and that claims 7-13, 25, and 26 be allowed.

An earnest attempt has been made to respond to the March 9, 2004 Official Action in this matter. All claims are deemed in condition for allowance. If the Examiner feels that a telephonic interview with expedite allowance, he is respectfully urged to contact the undersigned. Claims 7-13, 25, and 26 are pending in the application. Allowance of these claims is hereby requested.

Respectfully solicited,
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